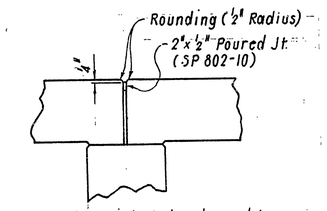
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		2980	6	59
				(1) 6140-6145		QUANT.	27598	

SCHEDULE OF BRIDGE QUANTITIES — JOB 2980

BRIDGE NO. / CODE NO. / NAME PLATE TITLE	UNIT OF STRUCTURE	ITEM NO.	205	801	SP & 802	* SP & 802	803	804	** SP & 805	*** SP & 805	812	SP & 816	SP & 816	SP & 603
		ITEM	REMOVAL OF EXISTING BRIDGE STRUCTURES	COMMON EXCAVATION FOR STRUCTURES-BRIDGE	CLASS S CONCRETE	CLASS S(AE) CONCRETE	BOILED LINSEED OIL	REINFORCING STEEL (GRADE 60)	PRECAST CONCRETE PILING (16" OCT. or 16" SQ.)	TEST PILES (16" OCT. or 16" SQ.)	BRIDGE NAME PLATES (TYPE "C")	DUMPED RIPRAP	FILTER BLANKET	TEMPORARY BRIDGE STRUCTURES
		UNIT	LUMP SUM	CU. YD.	CU. YD.	CU. YD.	GAL.	LB.	LIN. FT.	LIN. FT.	EACH	CU. YD.	SQ. YD.	LUMP SUM
6140 / X020 / HUDGINS CREEK RELIEF	BENT 1			15	9.03			1165	140			55	110	
	BENT 2				6.92			1009	200	45				
	BENT 3				6.92			974	240					
	BENT 4			15	9.03			1165	140			55	110	
	SPAN 1 & 3					152.60	5.8	22754			1.0			
	SPAN 2					75.80	2.9	11293						
TOTALS FOR BRIDGE NO. 6140			0.10	30	31.9	228.4	8.7	38360	720	45	1.0	110	220	0.20
6141 / X020 / HUDGINS CREEK	BENT 1				9.01			1165	160			215	430	
	BENT 2				6.92			974	225	50				
	BENT 3				6.92			1009	270					
	BENT 4				6.92			974	270					
	BENT 5				6.92			974	225	50				
	BENT 6			14	9.01			1165	160			175	350	
	SPAN 1 & 5					152.62	5.8	22754			1.0			
	SPAN 2, 3 & 4					227.48	8.7	33895						
TOTALS FOR BRIDGE NO. 6141			0.23	14	45.7	380.1	14.5	62910	1310	100	1.0	390	780	0.27
6142 / X020 / HUDGINS CR. RELIEF	BENT 1			12	8.88			1158	140			176	352	
	BENT 2				6.92			974	160	45				
	BENT 3				6.92			1009	200					
	BENT 4			13	8.88			1158	140			147	294	
	SPAN 1 & 3					86.52	4.2	13650			1.0			
	SPAN 2					42.98	2.1	6731						
TOTALS FOR BRIDGE NO. 6142			0.16	25	31.6	129.5	6.3	24680	640	45	1.0	323	646	0.10
6143 / X020 / HUNDLEY CREEK	BENT 1			14	9.03			1165	160			158	316	
	BENT 2				6.88			974	160	45				
	BENT 3				6.88			1009	200					
	BENT 4				6.88			974	160	45				
	BENT 5			11	9.03			1165	160			102	204	
	SPAN 1 & 4					115.9	5.0	19238			1.0			
	SPAN 2 & 3					115.8	5.0	19095						
TOTALS FOR BRIDGE NO. 6143			0.16	25	38.7	231.7	10.0	43620	840	90	1.0	260	520	0.20
6144 / X020 / HUNDLEY CR. RELIEF	BENT 1			11	8.88			1158	160			174	348	
	BENT 2				6.92			974	160	45				
	BENT 3				6.92			1009	200					
	BENT 4			11	8.88			1158	160			145	290	
	SPAN 1 & 3					86.52	4.2	13650			1.0			
	SPAN 2					42.98	2.1	6731						
TOTALS FOR BRIDGE NO. 6144			0.08	22	31.6	129.5	6.3	24680	680	45	1.0	319	638	0.10
6145 / X020 / HUNGERRUN CREEK	BENT 1			13	9.02			1165	160			124	248	
	BENT 2				6.92			974	200	45				
	BENT 3				6.92			1009	240					
	BENT 4				6.92			974	200	45				
	BENT 5			13	9.02			1165	160			140	280	
	SPAN 1 & 4					152.62	5.8	22753			1.0			
	SPAN 2 & 3					151.68	5.8	25590						
TOTALS FOR BRIDGE NO. 6145			0.27	26	38.8	304.3	11.6	53630	960	90	1.0	264	528	0.13
TOTALS FOR JOB NO. 2980			1.0	142	218.3	1403.5	57.4	247880	5150	415	6.0	1666	3332	1.0

* Refers to SP 807-10
** Refers to SP 802-5
*** Refers to SP 802-5, SP 805-2



Note: All Joints to be cleaned by sand blasting or other approved methods before pouring joint.

JOINT DETAIL
N.T.S.

DALE F. LOE
DESIGN SQUAD SUPERVISOR

SCHEDULE OF BRIDGE QUANTITIES
CLEVELAND CO. LINE — MONTICELLO
BRIDGE & APPRS.
DREW COUNTY
ROUTE 35 SEC. 7

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

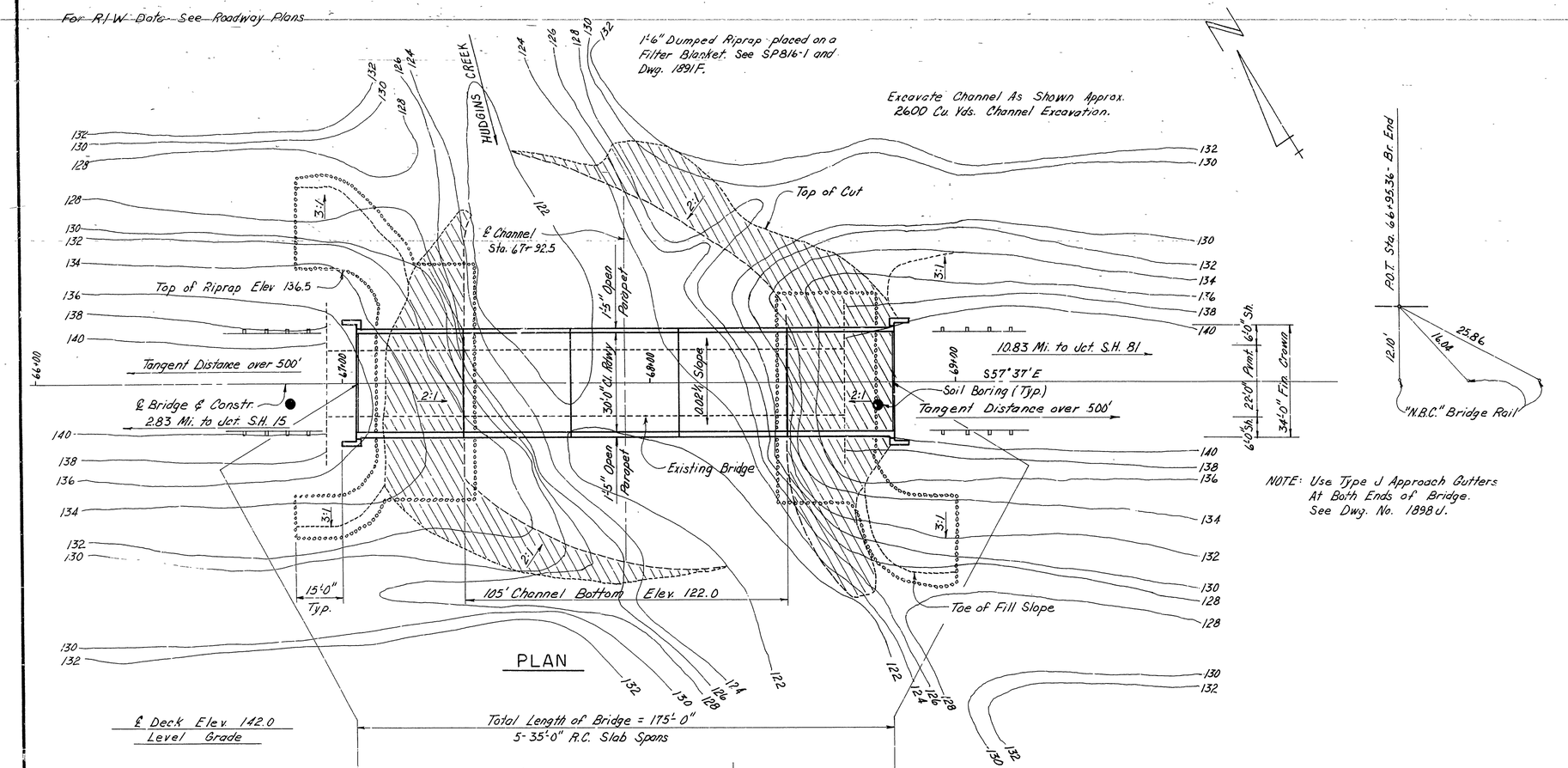
DRAWN BY: MRJ DATE: 6-18-85
CHECKED BY: DFL DATE: 7-2-85
DESIGNED BY: DATE:
SCALE: NONE

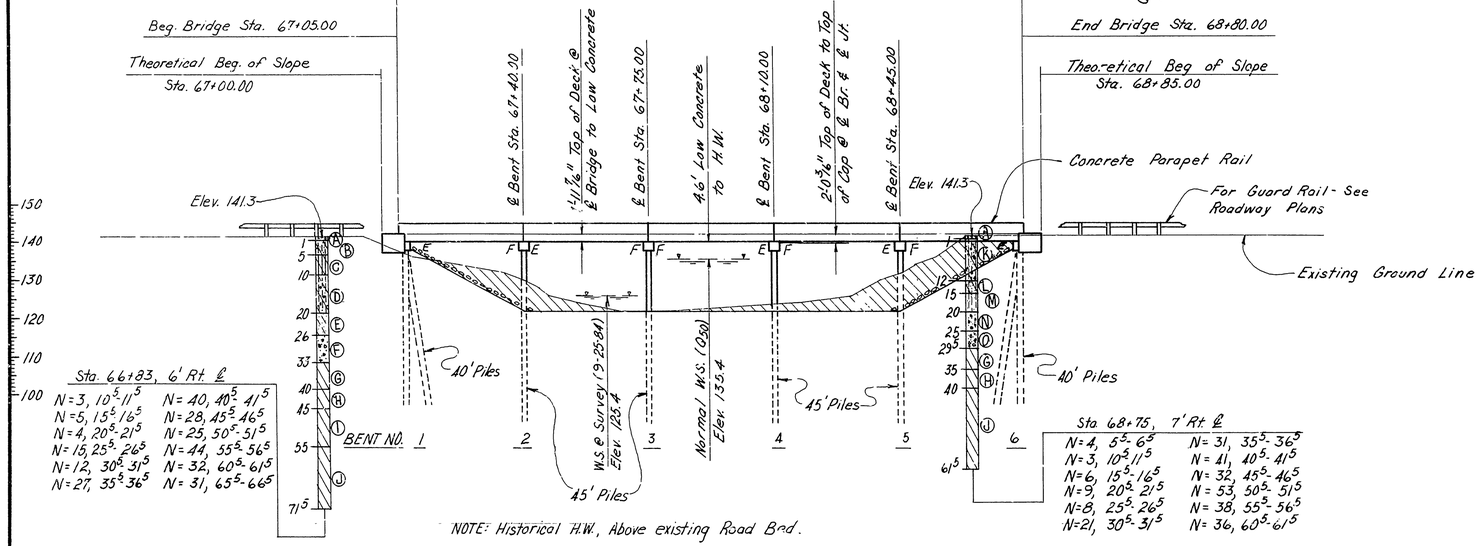
Fred Pinkerton
BRIDGE ENGINEER

BRIDGE NO. 6140-6145 DRAWING NO. 27598

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		2980	19	59
				6141		LAYOUT	27600	

For R/W Data See Roadway Plans





Sta. 66+83, 6' Rt. ℄

N=3, 10^5-11^5	N=40, 40^5-41^5
N=5, 15^5-16^5	N=28, 45^5-46^5
N=4, 20^5-21^5	N=25, 50^5-51^5
N=15, 25^5-26^5	N=44, 55^5-56^5
N=12, 30^5-31^5	N=32, 60^5-61^5
N=27, 35^5-36^5	N=31, 65^5-66^5

Sta. 68+75, 7' Rt. ℄

N=4, 5^5-6^5	N=31, 35^5-36^5
N=3, 10^5-11^5	N=41, 40^5-41^5
N=6, 15^5-16^5	N=32, 45^5-46^5
N=9, 20^5-21^5	N=53, 50^5-51^5
N=8, 25^5-26^5	N=38, 55^5-56^5
N=21, 30^5-31^5	N=36, 60^5-61^5

GENERAL NOTES

BENCH MARK: "□" CUT IN HUB RAIL 10' RT. STA. 68+56, ELEV. 141.81.

CONSTRUCTION SPECIFICATIONS: ARKANSAS STATE HIGHWAY COMMISSION STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, EDITION OF 1978 AND APPLICABLE SPECIAL PROVISIONS.

DESIGN SPECIFICATIONS: AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, 1983 WITH CURRENT INTERIM SPECIFICATIONS.

LIVE LOADING: HS20

METHOD OF DESIGN: LOAD FACTOR

DETAIL DRAWINGS:	DRAWING NO.
END BENTS	27601
INTERMEDIATE BENTS	27601
SPANS	27602
EXCAVATION FOR STRUCTURES	1891F
EMBANKMENT CONSTRUCTION	1868A
GUARD RAIL CONNECTION	GR-8A
TYPE C BRIDGE NAME PLATES	2398A
TYPE J APPROACH GUTTERS	1898J
TEMPORARY BRIDGE STRUCTURES	2391 & 2392
PRECAST CONCRETE PILING	2383

CONCRETE PILING: PILING FOR BENTS 1-6 SHALL BE 16" OCT. OR 16" SQ. PRECAST CONCRETE AND SHALL BE DRIVEN WITH AN APPROVED AIR, STEAM, OR DIESEL HAMMER TO A MINIMUM BEARING CAPACITY OF 44 TONS PER PILE AND TO A MINIMUM PENETRATION OF 20' BELOW NATURAL GROUND. LENGTHS OF PILING SHOWN ARE ASSUMED FOR ESTIMATING QUANTITIES ONLY. ACTUAL LENGTH TO BE DETERMINED IN THE FIELD. DRIVE ONE 50' TEST PILE IN BENTS 2 AND 5. PILES IN END BENTS TO BE DRIVEN AFTER EMBANKMENT TO BOTTOM OF CAP IS IN PLACE. PILE SHAPES SHALL NOT BE MIXED ON ANY BRIDGE.

EXISTING BRIDGE: REMOVE THE EXISTING 20' WIDE BY 169' LONG BRIDGE NO. 1658. THE SUPERSTRUCTURE CONSISTS OF SIX 19' SPANS WITH TIMBER STRINGERS AND CONCRETE DECKS, AND ONE 50' SPAN WITH STEEL STRINGERS AND CONCRETE DECK. THE SUBSTRUCTURE CONSISTS OF TIMBERPILE BENTS AND TIMBER ABUTMENTS. ALL EXISTING BRIDGE MATERIAL SHALL BECOME THE PROPERTY OF THE CONTRACTOR. SEE SECTION 205 OF THE STANDARD SPECIFICATIONS.

TEMPORARY BRIDGE: CONSTRUCT A 130' LONG TEMPORARY BRIDGE APPROXIMATELY 40' DOWNSTREAM. THE TEMPORARY BRIDGE SHALL HAVE A MINIMUM ROADWAY WIDTH OF 20 FT., A MINIMUM LIVE LOAD CAPACITY OF H15 AND A MINIMUM DECK ELEVATION OF 135.4 FT. SEE SECTION 603 OF THE STANDARD SPECIFICATIONS. SEE SP 603-3.

IF TIMBER PILING AND PINE TIMBER ARE USED ON THIS TEMPORARY BRIDGE STRUCTURE, THE MATERIALS SHALL BE TREATED WITH A PRESERVATIVE ACCORDING TO THE STANDARD SPECIFICATIONS.

BOILED LINSEED OIL: BOILED LINSEED OIL TREATMENT SHALL BE APPLIED TO THE ROADWAY SURFACE AND FACE AND TOP OF THE CONCRETE PARAPET RAIL.

BRIDGE DECK: THE CONCRETE BRIDGE DECK SHALL BE GIVEN A TINE FINISH AS SPECIFIED FOR FINAL FINISHING IN SUBSECTION 802.23 FOR CLASS 6 ROADWAY SURFACE FINISH.

BORING LEGEND

A. ASPHALT PAVEMENT.
B. MOIST, SOFT, BROWN SANDY, SILTY CLAY (FILL MATERIAL).
C. MOIST, VERY SOFT, BROWN CLAYEY SILT (FILL MATERIAL).
D. MOIST, SOFT TO MEDIUM STIFF, BROWN SANDY, SILTY CLAY WITH SOME ORGANIC MATTER.
E. MOIST, VERY LOOSE, BROWN CLAYEY SAND.
F. WET, MEDIUM DENSE, GRAY SAND AND GRAVEL.
G. MOIST, VERY STIFF, GRAY CLAY WITH SILT AND SAND LENSES.
H. MOIST, HARD, GRAY CLAY WITH SILT AND SAND LENSES.
I. MOIST, VERY STIFF, GRAY FOSSILIFEROUS CLAY WITH SILT AND SAND LENSES.
J. MOIST, HARD, GRAY FOSSILIFEROUS CLAY WITH SILT AND SAND LENSES.
K. MOIST, SOFT, BROWN SANDY, SILTY CLAY WITH ORGANIC MATTER (FILL MATERIAL).
L. MOIST, SOFT, BROWN SANDY, SILTY CLAY.
M. MOIST, LOOSE, BROWN SILTY SAND.
N. MOIST, LOOSE, GRAY SAND WITH ORGANIC MATTER.
O. WET, LOOSE, BROWN AND GRAY SAND AND GRAVEL WITH SOME ORGANIC MATTER.

DESIGN DATA

Bridge No. 6140, Bridge No. 6141, and Bridge No. 6142 were designed to provide a total waterway area approximately equal to the waterway area of the four existing Bridges. The Q_{50} discharge was not used to design the waterway opening.

ELEVATION

D.A. '72 SQ. Mi. *

* Area Includes three Bridge Sites

HYDROLOGIC DATA

Q_{50} = 12500 cfs.
Normal W.S. Elev. 135.4
Q_{100} = 14800 cfs.
Normal W.S. Elev. 135.8

LAYOUT OF BRIDGE OVER
HUDGINS CREEK
CLEVELAND CO. LINE MONTICELLO
BRIDGE & APPRS
DREW COUNTY
ROUTE 35 SEC. 7

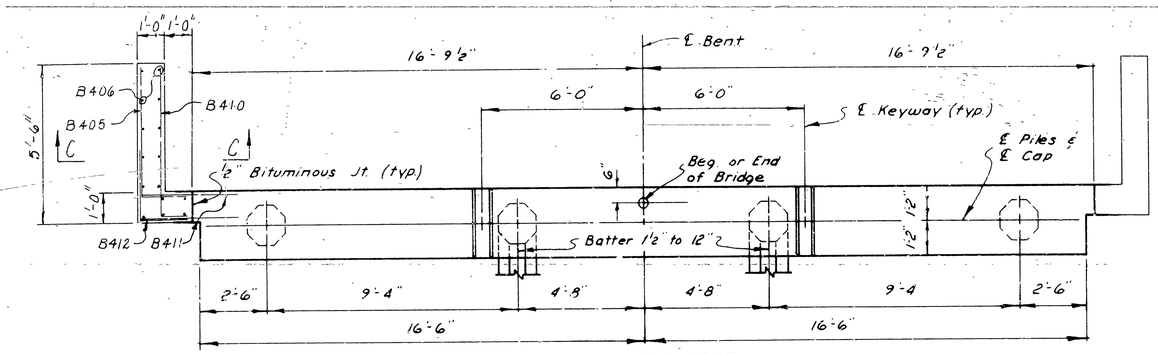
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: MRJ DATE: 5-30-85
CHECKED BY: DFL DATE: 7-2-85
DESIGNED BY: DFL DATE: 5-30-85
SCALE: 1" = 20'

Vernal Pinkerton
BRIDGE ENGINEER

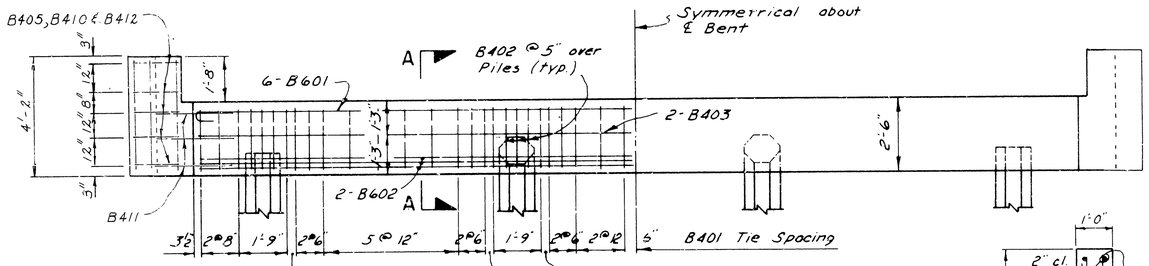
BRIDGE NO. 6141 DRAWING NO. 27600

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		2980	20	59
				1	6140,6141,6145	BT. DTL'S.		27601



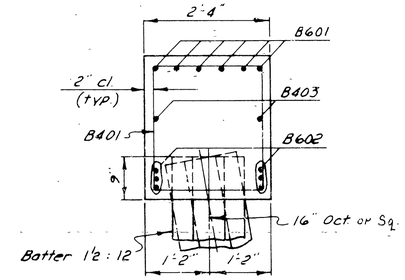
PLAN OF END BENT

Scale: ⅜" = 1'-0"



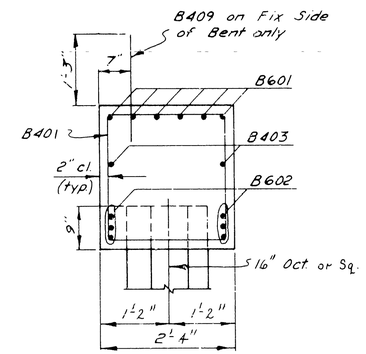
ELEVATION OF END BENT

Scale: ⅜" = 1'-0"



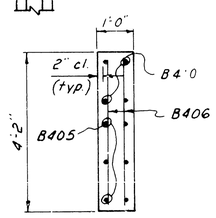
SECTION A-A

Scale: ¾" = 1'-0"



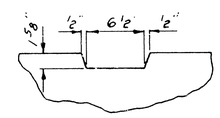
SECTION B-B

Scale: ¾" = 1'-0"



VIEW C-C

Scale: ½" = 1'-0"



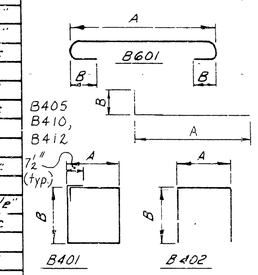
KEYWAY DETAIL

Scale: 1½" = 1'-0"

BAR LIST (EACH BENT)

MARK	NO. REQ'D END.	NO. REQ'D INT.	LENGTH	A	B	PIN. DIA.
B401	42	36	9'-2"	2'-0"	2'-2"	2"
B402	12	18	6'-2"	2'-0"	2'-2"	2"
B403	2	2	32'-8"			Str.
B405	10		6'-1"	4'-6"	1'-8"	2"
B406	30		3'-10"			Str.
B409		*	2'-6"			Str.
B601	6	6	34'-0"	32'-8"	6"	4½"
B602	6	6	32'-8"			Str.
B410	10		6'-1"	5'-2"	1'-0"	2"
B411	12		3'-6"			Str.
B412	10		4'-1"	2'-6"	1'-8"	2"

BENDING DIAGRAMS



Dimensions are out to out of Bars

* 21 Required For Fix-Exp. Bent
* 42 Required For Fix-Fix Bent

GENERAL NOTES

ALL CONCRETE TO BE CLASS "S" AND SHALL BE POURED IN THE DRY. ALL EXPOSED CORNERS TO BE CHAMFERED 3/4" UNLESS OTHERWISE NOTED.

REINFORCING STEEL TO BE ASTM A615 OR A617, GRADE 60.

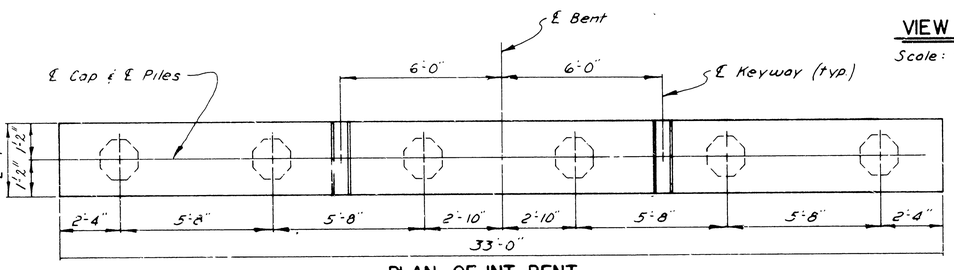
ALL PILING IN END BENTS SHALL BE 16 INCH Oct. or Sq. PRECAST CONCRETE AND SHALL BE DRIVEN TO A MINIMUM BEARING CAPACITY OF 44 TONS PER PILE. ALL PILING IN INTERIOR BENTS SHALL BE 16 INCH Oct. or Sq. PRECAST CONCRETE AND SHALL BE DRIVEN TO A MINIMUM BEARING CAPACITY OF 44 TONS PER PILE AS SHOWN ON THE LAYOUT.

SPECIFICATIONS: ARKANSAS STATE HIGHWAY COMMISSION STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, EDITION OF 1978 AND APPLICABLE SPECIAL PROVISIONS.

LIVE LOADING: HS20

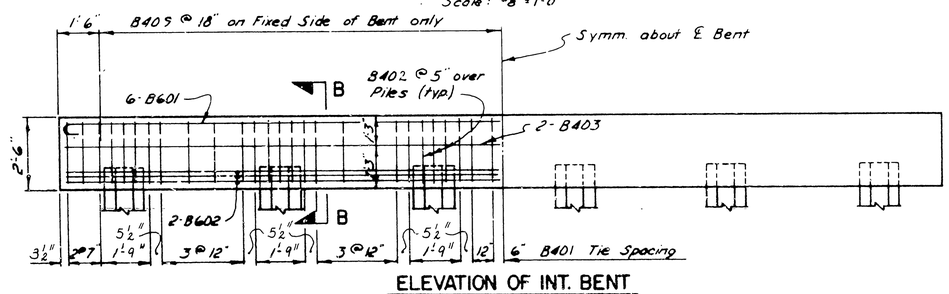
METHOD OF DESIGN: LOAD FACTOR

UNIT STRESSES: f'c = COMPRESSIVE STRENGTH OF CLASS "S" CONCRETE 3,500 PSI
fy = YIELD STRENGTH OF REINFORCING STEEL 60,000 PSI



PLAN OF INT. BENT

Scale: ⅜" = 1'-0"



ELEVATION OF INT. BENT

Scale: ⅜" = 1'-0"

QUANTITIES PER BENT

	CONCRETE	REINFORCING STEEL
END BENT	9.03 CU. YDS	1165 LBS.
INT. BENT FIX.-FIX	6.88 CU. YDS	1009 LBS.
INT. BENT FIX.-EXP.	6.88 CU. YDS	974 LBS.

DETAILS OF STANDARD PILE BENTS
35'-0" R.C. SLAB SPAN
30'-0" CLEAR ROADWAY
CONCRETE PARAPET RAILING

ROUTE 160 SEC. 2

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

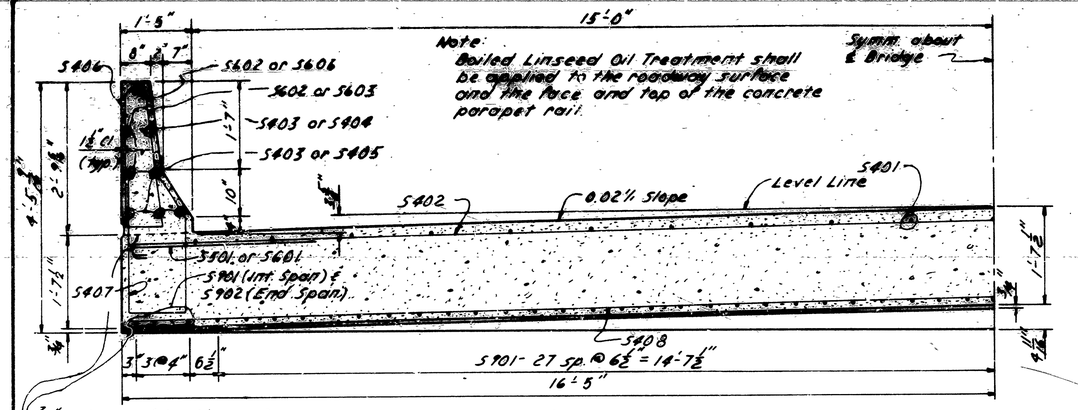
DRAWN BY: D.H.P. DATE: 5-9-83
CHECKED BY: GVA DATE: 5-27-83
DESIGNED BY: D.H.P. DATE: 5-9-83
SCALE: As Noted

BRIDGE ENGINEER

BRIDGE NO. 6140,6141,6145 **DRAWING NO.** 27601

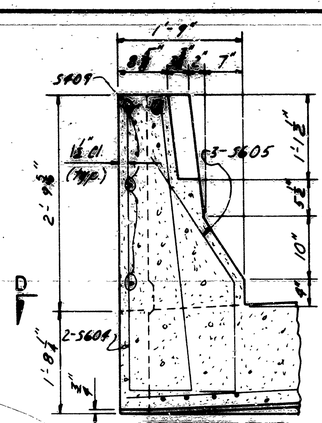
4-9-86	5-19-4-16-86			6	ARK.		
				JOB NO.	2980	21	59

1 6140, 6141, 6145 SPAN DTL'S. 27602



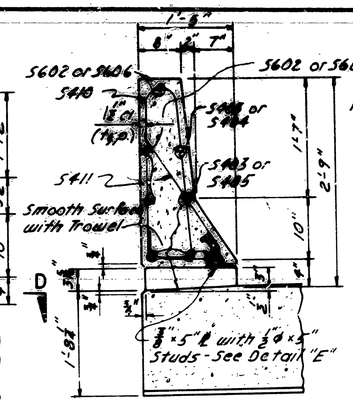
SECTION A-A

Scale: ¼" = 1'-0"



SECTION B-B

Scale: 1" = 1'-0"



SECTION C-C

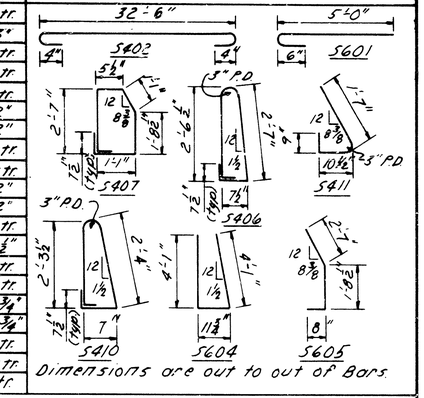
Scale: 1" = 1'-0"

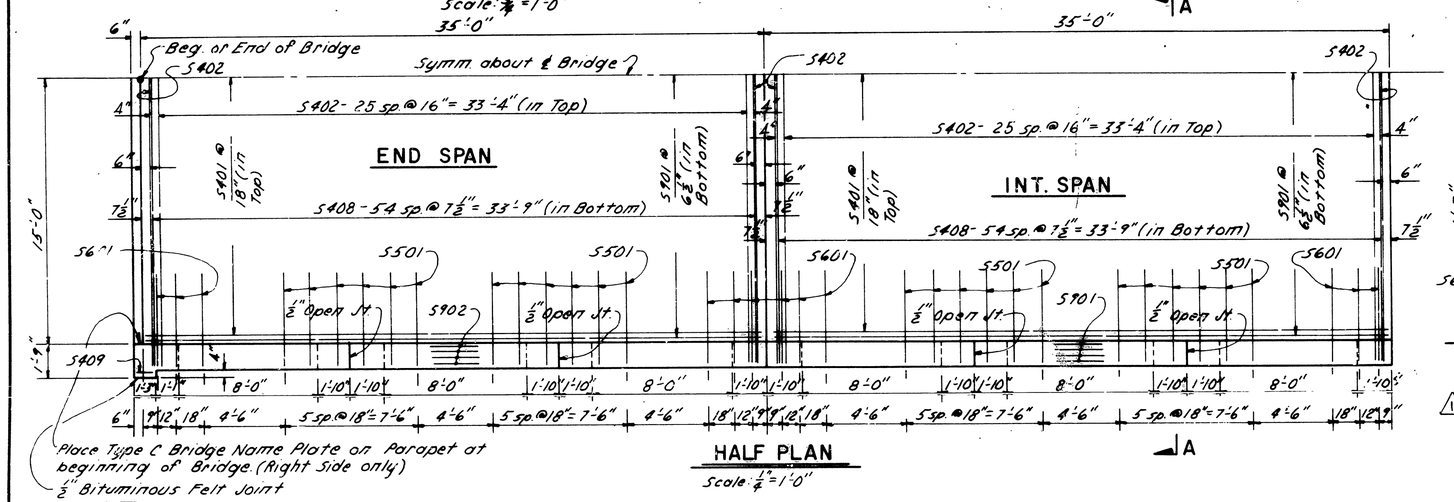
Note: Drain shall taper from 3⅛" x 8'-0" at curb to 3 5/16" x 8'-0" at back face of concrete Parapet Rail.

BAR LIST PER SPAN

MK.	No. Req'd. End	No. Req'd. Int.	Length	Pin Dia.
S401	21	21	34'-8"	str.
S402	28	28	33'-6"	3"
S403	20	30	11'-4"	str.
S404	2		10'-10"	str.
S405	8		11'-10"	str.
S406	44	48	6'-10"	2"
S407	44	48	7'-9"	2"
S408	55	55	32'-4"	str.
S409	8		1'-0"	str.
S410	54	54	6'-4"	2"
S411	54	54	3'-2"	2"
S501	24	24	5'-0"	str.
S601	12	12	5'-8"	4½"
S602	12	18	11'-4"	str.
S603	4		11'-10"	str.
S604	4		8'-10"	3¾"
S605	6		4'-9"	3¾"
S901	55	63	34'-8"	str.
S902	8		35'-2"	str.
S606	2		10'-10"	str.

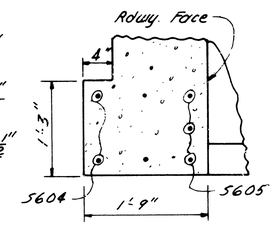
Bending Diagrams





HALF PLAN

Scale: ¼" = 1'-0"

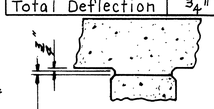


SECTION D-D

Scale: 1" = 1'-0"

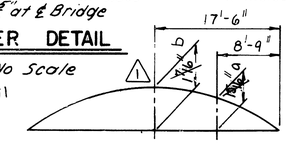
DEAD LOAD DEFLECTION

Variable	a	b
Immediate	1/4"	5/16"
Long Term	1/2"	11/16"
Total Deflection	3/4"	1"



RISER DETAIL

No Scale



D.L. CAMBER DIAGRAM

N.T.S.

GENERAL NOTES

ALL CONCRETE TO BE CLASS S(A.E.) CONCRETE. ALL EXPOSED CORNERS TO BE CHAMFERED 3/4" UNLESS OTHERWISE NOTED.

REINFORCING STEEL TO BE ASTM A615 OR A617, GRADE 60.

BAR SUPPORTS FOR REINFORCING BARS WILL NOT BE PAID FOR DIRECTLY, BUT WILL BE CONSIDERED SUBSIDIARY TO THE ITEM "REINFORCING STEEL".

ROOFING FELT, BITUMINOUS FELT, PREFORMED JOINT, STRUCTURAL STEEL, AND POURED JOINTS SHALL BE MEASURED AND PAID FOR AS CLASS S(AE) CONCRETE

SPECIFICATIONS: ARKANSAS STATE HIGHWAY COMMISSION STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, EDITION OF 1978, AND APPLICABLE SPECIAL PROVISIONS.

DESIGN SPECIFICATIONS: AASHTO 1983 AND INTERIMS.

DESIGN LIVE LOADING: HS20

LOAD DISTRIBUTION TO SLAB: DEAD LOAD *286 PSF; LIVE LOAD - 0.166 WHEELS/FT. OF WIDTH PLUS 30% IMPACT.

UNIT STRESSES: COMPRESSIVE STRENGTH OF CLASS S OR S(AE) CONCRETE = 3,500 PSI
YIELD STRENGTH OF REINFORCEMENT = 60,000 PSI

LOAD FACTOR USED FOR DESIGN OF SLAB.

Guard Rail Connection Bolts shall be ¾"x8" A325 Galvanized Bolts with 1¾" threaded. (Non-Pay Item - Subsidiary to other items.) (Type I)

* Includes 25# Future Wearing Surface.

NOTE: For Joint Detail See Drwg. No. 27598

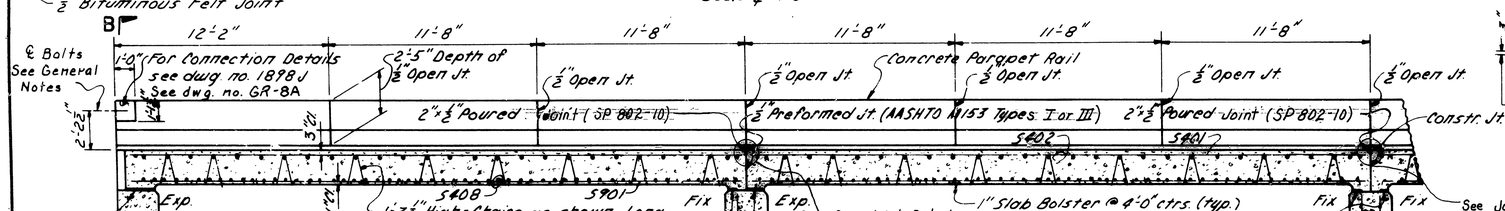
1 Revised Deflections 4-9-86, D.H.P.

QUANTITIES (PER SPAN)

	Concrete	Reinforcing Steel	Structural Steel
End Span	** 76.31 cu. yd.	11,377 Lbs.	* 322 Lbs.
Int. Span	** 75.82 cu. yd.	11,297 Lbs.	* 322 Lbs.

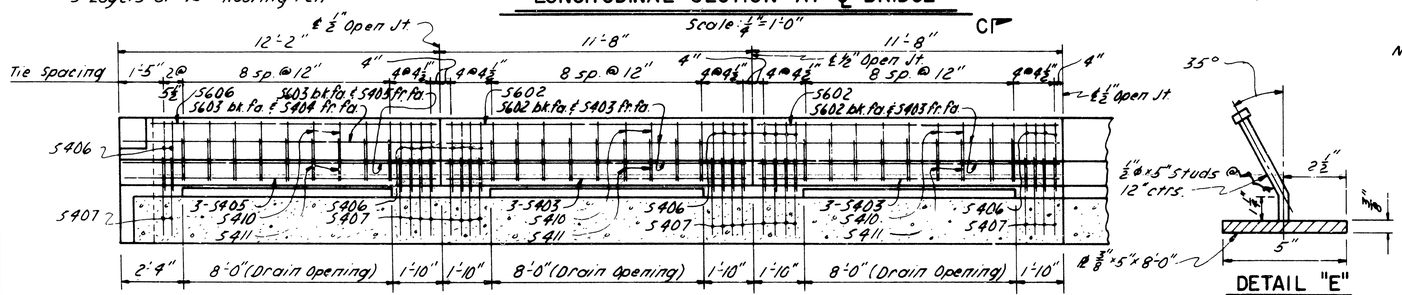
* For information only; Structural Steel to be measured and paid for as Class S or S(AE) concrete.

** Concrete Quantities calculated for 2'-4" Caps.



LONGITUDINAL SECTION AT ℄ BRIDGE

Scale: ½" = 1'-0"



LONGITUDINAL SECTION AT CURB

Scale: ⅜" = 1'-0"

DETAIL "E"

No Scale

Note: The surfaces of the ⅜" Plates which will not be in contact with concrete shall recieve two coats of paint in the shop. These coats shall be those specified as First Shop Coat and Second Field Coat in subsection 807.59(a) and 807.59(c) of SP807-10.

The ½"ø x 5" Studs shall be Granular Flux Filled, Solid Fluxed, or equal, and automatically end welded to the ⅜" Plate in accordance with recommendations of the Manufacturer.

DETAILS OF STANDARD
35'-0" R.C. SLAB SPAN
30' CL. RDWY. - CONCRETE PARAPET RAIL
ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

ALTERED BY MRJ DRAWN BY: N. dla; DATE: 8-22-83
CHECKED BY: MRJ DATE: 8-23-83 SCALE: as noted
DESIGNED BY: STJ DATE:

Vernal Pinkston
BRIDGE ENGINEER

BRIDGE NO. 6140, 6142, 6145 DRAWING NO. 27602